



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,520	03/28/2001	Masato Yonezawa	07977/270001/US4820	5433
26171 7590 04/05/2007 FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER ALEJANDRO MULERO, LUZ L	
			ART UNIT 1763	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE 3 MONTHS			MAIL DATE 04/05/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No. 09/820,520	Applicant(s) YONEZAWA ET AL.	
	Examiner Luz L. Alejandro	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-14 and 20-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-14 and 20-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 6-14, and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted prior art in view of Izu et al., U.S. Patent 4,410,558 or Sando et al., U.S. Patent 4,479,369.

Admitted prior art shows the invention substantially as claimed including a film formation apparatus comprising: a vacuum chamber; an exhaust means for exhausting the gas from the vacuum chamber to the outside; a first plate electrode 303 for supplying an electric energy inside the chamber; a second grounded electrode 302 opposing the first electrode for supplying the electric energy inside the vacuum chamber

Art Unit: 1763

and wherein the first electrode is located below said second electrode; supporting means for supporting a substrate 301 opposing the first electrode wherein the substrate is moved in a first direction through the chamber, wherein the substrate is supported between the first and second electrodes, and wherein the substrate is located horizontally and has a substrate surface that is downwardly opposed to the first electrode; an introducing port for gas located between the plate electrode 303 and the substrate wherein the gas is introduced into the chamber in a direction parallel with the first direction; and a transporting means for transporting a flexible substrate including at least one selected from a winding and an unwinding roll (see applicant's description of the roll to roll method at paragraph bridging pages 1 and 2). For a complete description of the claims, see Fig. 3 and its description. Note that with respect to independent claim 10 and the claims that depend from it, the first and second electrodes described above represent the second and first electrodes of these claims.

Admitted prior art does not expressly disclose the claimed exhaust structure, wherein the gas is exhausted from a plurality of openings in the first electrode, the openings being circular and located at constant intervals. Izu et al. discloses an apparatus comprising a gas inlet port 52 located in a position between a moving substrate 10 and a mesh-like electrode 58, the electrode 58 comprising a plurality of openings through where the gas is exhausted (see, for example, fig. 3 and its description). Additionally, Sando et al. discloses an apparatus comprising a mesh-like exhaust port 58 comprising a plurality of openings through where the gas is exhausted (see, for example, figs. 1-2 and their descriptions). In view of these disclosures, it would

Art Unit: 1763

have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Admitted prior art so as to comprise the exhaust structure suggested by Izu et al. or Sando et al., because this allows for: a) uniform distribution/exhaustion of the gas, and b) maintain a uniform flow of the gas. With respect to the shape and location of the openings for exhausting the gas, it should be noted that Fig. 3 of the Izu et al. reference shows the openings being circular and located at constant intervals. Furthermore, the particular shape of the openings is a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed openings are significant.

Claims 20-24 and 28-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted prior art in view of Izu et al., U.S. Patent 4,410,558 or Sando et al., U.S. Patent 4,479,369, as applied to claims 1-4, 6-14, 26-27 above, and further in view of Komino et al., U.S. Patent 6,156,151 or Yamazaki, U.S. Patent 4,808,553.

Note that with respect to independent 30 and the claims that depend from it, the first and second electrodes described above represent the second and first electrodes of these claims.

Admitted prior art, Izu et al., and Sando et al. are applied as above but do not expressly disclose that the apparatus further comprises an abnormal discharge preventing plate between the exhaust means and the electrode and having plurality of

openings. Komino et al. discloses a plasma apparatus comprising an exhaust means and a plate 118 having a plurality of openings 118a for preventing discharge (see, figs. 1, 4, 7, 9A, 9B, 10 or 11, and their descriptions). Additionally, Yamazaki discloses a plasma apparatus comprising an exhaust means 14 and a plate 20' comprising a plurality of openings which will prevent abnormal discharge from entering the exhaust means. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Admitted prior art modified by Izu et al. and Sando et al., as to further comprise a plate as claimed because abnormal discharge can be prevented in the exhaust means.

### ***Response to Arguments***

Applicant's arguments filed 08/02/06 have been fully considered but they are not persuasive. Applicant argues that the references of record, and particularly fig. 3 of the admitted prior art, do not disclose that the gas is introduced "in a direction parallel to the first direction so that a flow of gas is rectified in a direction away from a film formation surface of the substrate". However, the examiner respectfully contends that in fig. 3 of the admitted prior art the flow of the gas, as broadly interpreted, does flow in a direction away from the substrate (see the right hand side of fig. 3). Concerning the Izu reference, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to combine the references is clearly stated in the non-final office action mailed 03/02/06.

In response to applicant's argument that Izu and the admitted prior art are nonanalogous art with respect to each other, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both the apparatus of the admitted prior art and the apparatus of Izu are directed to plasma processing apparatus.

For the reasons of record as applied to the Izu reference, the Sando reference is also appropriately used and therefore rejections with respect to this reference are also maintained.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

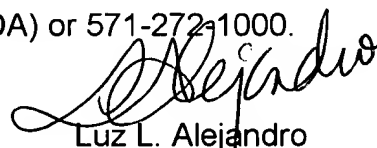
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luz L. Alejandro whose telephone number is 571-272-1430. The examiner can normally be reached on Monday to Thursday from 7:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 1763

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Luz L. Alejandro  
Primary Examiner  
Art Unit 1763

April 2, 2007